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REMARKS

Claims 21 and 30 have been amended to more clearly define Applicant's invention. In particular, both of these claims have been amended to include the features of claims 22 and 35 respectively and recite that the pigment is a modified carbon product comprising a carbon product having attached at least one organic group. Claims 22 and 35 have been cancelled in view of this amendment. Claims 36-39, which had depended from claim 35, have been amended to depend from claim 30. In addition, claims 31-34 have been amended to provide proper antecedent basis. In addition, claims 1-20 have been cancelled without prejudice to filing these claims in one or more continuation applications. Finally, new claim 41 has been added to relate to a specific embodiment of the non-aqueous coating composition of the present invention. This new claim is fully supported by the present specification and claims as originally filed, including, for example, paragraphs [0036]-[0037]. No new matter has been added. Thus, claims 21, 23-34, and 36-41 are pending.

Specification

In paragraph 1 of the Office Action, the Examiner states that the title of the invention is not descriptive and that a new title is required that is clearly indicative of the invention in which the claims are directed.

While Applicant believe that the original title is sufficiently descriptive of the claimed invention, Applicant has amended the title to recite "Non-Aqueous Coating Compositions Comprising Modified Pigments". Applicant believes that this new title is more descriptive of the claims, particularly as amended herein.

In paragraph 2 of the Office Action, the Examiner states that the term "in aqueous coating applications" found in paragraph [0035] is inconsistent with Applicant's invention and suggests replacing this term with "in non-aqueous coating applications". In addition, the Examiner states that the term "an non-aqueous" in paragraph [0026] should be replaced with "a

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non-aqueous". Finally, the Examiner states that any other errors in the specification should also be corrected.

Applicant has corrected the typographical errors noted by the Examiner. In particular, the phrase found in paragraph [0035] has been corrected as suggested. Also, the typographical error identified by the Examiner as being in paragraph [0026] was found in paragraph [0036] and has also been corrected. Finally, Applicant has corrected typographical errors found in paragraphs [0047] and [0048], as shown above.

Rejection of Claims under 35 U.S.C. § 112

The Examiner has rejected claims 12, 13, 23-26, and 31-35 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

In paragraph 3 of the Office Action, the Examiner states that claims 23-26 recite the limitation "the organic group" without sufficient antecedent basis but has examined these claims as if they depended on claim 22. The Examiner also states that claims 31-35 recite the limitation "the non-aqueous coating composition" without sufficient antecedent basis but has examined these claims as if they had been dependent on claim 30. Finally, the Examiner states that claims 12 and 13 are rendered indefinite because the molecular weights have no basis, such as number average or weight average molecular weights.

Regarding claims 23-26, these claims depend from claim 21, which, as amended, includes the feature "organic group". Thus, there is sufficient antecedent basis for this term.

Regarding claims 31-35, these claims have been amended to depend from claim 30, which recites the feature "non-aqueous coating composition". Thus, there is sufficient antecedent basis for this term.

Regarding claims 12 and 13, while Applicant believes the term "molecular weight" would be clear to one skilled in the art, particular in view of the disclosure found in the present specification (paragraph [0018] as well as the Examples, which recite specific materials fitting the

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molecular weight feature), in order to advance prosecution of the present application, claims 12 and 13 have been cancelled.

Applicant therefore believes that claims 12, 13, 23-26, and 31-35 are not indefinite and respectfully requests that this rejection be withdrawn.

Rejection of Claims under 35 U.S.C. § 102

Claims 1-5, 8, 10, 12, 13, and 15-19

The Examiner has rejected the above-identified claims under 35 U.S.C. § 102(b) as being anticipated by Golightly et al. (GB 2 019 822).

In paragraph 4 of the Office Action, the Examiner states that Golightly et al. discloses a talc dispersion comprising an organic polyelectrolyte dispersant (such as an alkali metal salt of a polycarboxylic acid having a weight average molecular weight of less than 100000) and a wetting agent that is an anionic surface active agent (such as an olefin sulfonate, including dioctyl sulfosuccinate which is water insoluble), wherein a base (such as sodium hydroxide) is used to adjust the final pH. In light of this, the Examiner concludes that it is clear that Golightly et al. anticipates the presently cited claims.

As discussed in more detail above, claims 1-20 have been cancelled without prejudice to filing these claims in one or more continuation applications, making the rejection of claims 1-5, 8, 10, 12, 13, and 15-19 moot.

Regarding new claim 41, this claim recites a non-aqueous coating composition comprising a) a non-aqueous vehicle comprising a resin and a non-aqueous solvent, and b) a pigment composition. The pigment composition comprises a pigment and at least one dispersant composition comprising i) at least one anionic surfactant and ii) at least one polymer comprising at least one salt of a carboxylic acid group, wherein the pigment is a modified carbon product comprising a carbon product having attached at least one organic group. Since

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Golightly et al. only relates to the use of talc, Applicant therefore believes that new claim 41 is also not anticipated by this reference.

Claims 6 and 7

The Examiner has rejected the above-identified claims under 35 U.S.C. § 102(b) as being anticipated by Golightly et al. (GB 2 019 822) in view of evidence given by Gosset et al. (U.S. Patent No. 4,632,848).

In paragraph 5 of the Office Action, the Examiner incorporates the discussion regarding Golightly et al. from paragraph 4 and further states that this reference discloses the use of Empimin OT, which is described as an active dioctyl sulfosuccinate as the wetting agent in its composition. The Examiner also states that, while Golightly et al. does not explicitly disclose the counterion in the active dioctyl sulfosuccinate, it is inherent that Empimin OT is a sodium salt. As evidence, the Examiner cites Gosset et al. as teaching that Empimin OT is sodium dioctyl sulfosuccinate. In light of this, the Examiner concludes that it is clear that Golightly et al., in view of evidence given by Gosset et al., anticipates the presently cited claims.

As discussed in more detail above, claims 1-20 have been cancelled without prejudice to filing these claims in one or more continuation applications, making the rejection of claims 6 and 7 moot.

Regarding new claim 41, this claim recites a non-aqueous coating composition comprising a) a non-aqueous vehicle comprising a resin and a non-aqueous solvent, and b) a pigment composition. The pigment composition comprises a pigment and at least one dispersant composition comprising i) at least one anionic surfactant and ii) at least one polymer comprising at least one salt of a carboxylic acid group, wherein the pigment is a modified carbon product comprising a carbon product having attached at least one organic group. Since Golightly et al. only relates to the use of talc, Applicant therefore believes that new claim 41 is also not anticipated by this reference, even in view of evidence given by Gosset et al.

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Claims 21, 27, and 28

The Examiner has rejected the above-identified claims under 35 U.S.C. § 102(b) as being anticipated by Golightly et al. (GB 2 019 822) in view of evidence given by Wypych (*Handbook of Fillers*).

In paragraph 6 of the Office Action, the Examiner incorporates the discussion regarding Golightly et al. from paragraph 4 and further states that the composition of this reference is used to disperse talc for use in coating materials in the paper coating industry. The Examiner also states that, while Golightly et al. does not teach the talc is used as a pigment, Wypych teaches that talc is considered to be a pigment in the paper industry. In light of this, the Examiner concludes that it is clear that Golightly et al., in view of evidence given by Wypych, anticipates the presently cited claims.

Applicant respectfully disagrees. As amended, claim 21 recites a pigment composition comprising a) at least one pigment, and b) at least one dispersant composition comprising i) at least one anionic surfactant and ii) at least one polymer comprising at least one salt of a carboxylic acid group. The pigment is a modified carbon product comprising a carbon product having attached at least one organic group. Golightly et al. does not disclose this type of pigment, nor any other types of pigments, but rather is specific to the use of talc, even in view of evidence given by Wypych.

Therefore, Applicant believes that claim 21 is not anticipated by Golightly et al. in view of evidence given by Wypych. Claims 27 and 28, which depend directly or indirectly from claim 21, recite further embodiments of the present invention and, for at least the reasons discussed above, are also not anticipated by this reference.

Applicant therefore believes that claims 21, 27, and 28 are not anticipated by Golightly et al., in view of evidence given by Wypych, and respectfully requests that this rejection be withdrawn.

Regarding new claim 41, this claim recites a non-aqueous coating composition comprising a) a non-aqueous vehicle comprising a resin and a non-aqueous solvent, and b) a

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pigment composition. The pigment composition comprises a pigment and at least one dispersant composition comprising i) at least one anionic surfactant and ii) at least one polymer comprising at least one salt of a carboxylic acid group, wherein the pigment is a modified carbon product comprising a carbon product having attached at least one organic group. Since Golightly et al. only relates to the use of talc, Applicant therefore believes that new claim 41 is also not anticipated by this reference, even in view of evidence given by Wypych.

Rejection of Claims under 35 U.S.C. § 103(a)

Golightly et al. in view of Bouvy et al.

The Examiner has rejected claim 20 under 35 U.S.C. § 103(a) as being unpatentable over Golightly et al. (GB 2 019 822) in view of Bouvy et al. (U.S. Patent No. 6,582,505).

In paragraph 7 of the Office Action, the Examiner incorporates the discussion regarding Golightly et al. from paragraph 4 and further states that this reference does not disclose the use of ammonia base in its composition. However, the Examiner states that it is well known to adjust pH with a base such as ammonia, and, as evidence, cites Bouvy et al. as teaching that ammonia can be used to adjust pH in an aqueous pigment dispersion. The Examiner concludes that, given that Golightly et al. is open to any base and given that ammonia is a known base, it would have been obvious to one of ordinary skill in the art to utilize ammonia as the base in Golightly et al. and thereby arrive at the presently cited claim.

As discussed in more detail above, claims 1-20 have been cancelled without prejudice to filing these claims in one or more continuation applications, making the rejection of claim 20 moot.

Regarding new claim 41, this claim recites a non-aqueous coating composition comprising a) a non-aqueous vehicle comprising a resin and a non-aqueous solvent, and b) a pigment composition. The pigment composition comprises a pigment and at least one dispersant composition comprising i) at least one anionic surfactant and ii) at least one polymer

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comprising at least one salt of a carboxylic acid group, wherein the pigment is a modified carbon product comprising a carbon product having attached at least one organic group. Golightly et al. only relates to the use of talc, and does not teach or suggest the use of any other pigment, especially a modified pigment having attached at least one organic group. Bouvy et al. cannot cure the deficiencies of Golightly et al., since this reference also does not disclose the use of such a pigment. Applicant therefore believes that new claim 41 is also patentable over this combination of references.

Nyssen

The Examiner has rejected claims 1-3, 8-11, 15-17, 21-28, 30-39 under 35 U.S.C. § 103(a) as being unpatentable over Nyssen (WO 00/60015). Reference is made to U.S. Patent No. 6,818,050 as the U.S. equivalent for WO 00/60015.

In paragraph 8 of the Office Action, the Examiner states that Nyssen discloses paint and coating material systems comprising a dispersant such as an anionic dispersant (including sulfosuccinic esters, alkylbenzenesulfonates, and salts of polyacrylic acids and (meth)acrylic acid copolymers), a pigment such as a surface-modified carbon black (including sulfo- or carboxyl-containing carbon blacks), a binder (including polyesters, alkyd resins, acrylic resins, and epoxy resins), water, and solvent (such as aliphatic or aromatic hydrocarbons, glycol and polyglycol ethers, esters, and ketones). The Examiner notes that, while Applicant's claims are drawn to a non-aqueous coating composition and Nyssen is drawn to an aqueous composition, Applicant's specification states that the claimed non-aqueous solvent may include 0-20% water and Nyssen discloses its composition comprises 4.9-98.9% water and solvents in an amount of less than 55 wt%. The Examiner therefore concludes that Nyssen is relevant prior art.

The Examiner acknowledges that Nyssen does not explicitly disclose the combined use of anionic surfactants such as a salt of a sulfonate group and a polymer comprising at least one salt of a carboxylic acid group. However, the Examiner concludes it would have been obvious

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to one of ordinary skill in the art to utilize two ingredients which are known to produce the same effect. The Examiner also states that, while Nyssen is silent with respect to the salt associated with the salts of copolymers of acrylic acid, it would be well known in the art to commonly utilize alkali metal and ammonium salts. The Examiner therefore also concludes that it would have been well within the capabilities of one of ordinary skill in the art to utilize ammonium salt of an acrylic acid copolymer of Nyssen and thereby arrive at the presently claimed invention.

Applicant respectively disagrees. Regarding claims 1-3, 8-11, and 15-17, as discussed in more detail above, claims 1-20 have been cancelled without prejudice to filing these claims in one or more continuation applications, making the rejection of claims 1-3, 8-11, and 15-17 moot.

Regarding claims 21-28, claim 21 recites a pigment composition comprising a) at least one pigment, and b) at least one dispersant composition comprising i) at least one anionic surfactant and ii) at least one polymer comprising at least one salt of a carboxylic acid group. The pigment is a modified carbon product comprising a carbon product having attached at least one organic group.

By comparison, Nyssen relates to paint and coating material systems comprising at least one solids component and at least one binder component. The solids component contains a pigment such as an acidic carbon black or a chemically surface modified carbon black, including a sulpho- or carboxyl-containing carbon black (see column 3, lines 43-47). However, these are not the modified carbon products used in the pigment composition of the present invention. In particular, there is no disclosure, teaching, or suggestion of any attached organic group. Rather, the carbon blacks described in Nyssen are conventional oxidized or sulfonated carbon blacks. Such blacks would include, for example, several of the carbon blacks shown in the Comparative Examples of the present application, such as M1300 and M1400. Since a modified carbon product comprising a carbon product having attached at least one organic group is not taught or suggested, a pigment composition comprising such a modified carbon product is also not taught or suggested.

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Applicant therefore believes that claim 21 is patentable over Nyssen. Claims 23-28, which depend either directly or indirectly from claim 21, recite further embodiments of the present invention and, for at least the reasons discussed above, are also patentable over this reference. Claim 22 has been cancelled, making the rejection of this claim moot.

Regarding claims 30-39, claim 30 recites a non-aqueous coating composition comprising a) a non-aqueous vehicle comprising a resin and a non-aqueous solvent, b) at least one pigment, and c) at least one dispersant composition comprising i) at least one anionic surfactant and ii) at least one polymer comprising at least one salt of a carboxylic acid group. The pigment is a modified carbon product comprising a carbon product having attached at least one organic group.

By comparison, as discussed in more detail above, Nyssen relates to paint and coating material systems comprising at least one solids component and at least one binder component. While the solids component contains a pigment, there is no disclosure, teaching, or suggestion of a modified carbon product comprising a pigment having attached at least one organic group. Since a modified carbon product comprising a carbon product having attached at least one organic group is not taught or suggested, a coating composition comprising such a modified carbon product is also not taught or suggested.

Furthermore, and as acknowledged by the Examiner, Nyssen relates to aqueous coating compositions. There is no disclosure, teaching, or suggestion anywhere in Nyssen of a non-aqueous coating composition. Thus, Applicant believes that, considering the reference as a whole, (see, for example, column 1, line 21 to column 2, line 27, column 2, lines 60-66, column 11, line 33 to column 12, line 13, and column 12, lines 27-34), one skilled in the art would not consider Nyssen as art relating to non-aqueous coating compositions. Further support for this includes the claims, which recite "wherein the components of the system produce an aqueous dispersion" (see, for example, claim 1). Thus, Applicant believes Nyssen is non-analogous art.

Since the present claims recite a non-aqueous coating composition comprising a non-aqueous vehicle, Applicant believes claim 30 is patentable over Nyssen. Claims 31-34 and 36-

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39, which depend directly from claim 30, recite further embodiments of the present invention and, for at least the reasons discussed above, are also patentable over this reference. Claim 35 has been cancelled, making the rejection of this claim moot.

Therefore, Applicant believes that claims 1-3, 8-11, 15-17, 21-28, and 30-39 are patentable over Nyssen and respectfully request that this rejection be withdrawn.

Regarding new claim 41, this claim recites a non-aqueous coating composition comprising a) a non-aqueous vehicle comprising a resin and a non-aqueous solvent, and b) a pigment composition. The pigment composition comprises a pigment and at least one dispersant composition comprising i) at least one anionic surfactant and ii) at least one polymer comprising at least one salt of a carboxylic acid group, wherein the pigment is a modified carbon product comprising a carbon product having attached at least one organic group. As discussed in more detail above, Applicant believes there is no disclosure, teaching, or suggestion in Nyssen of the recited pigment composition since there is no disclosure, teaching, or suggestion of a modified carbon product comprising a carbon product having attached at least one organic group. Furthermore, Nyssen is non-relevant art since it describes only aqueous compositions whereas the present claim recites a non-aqueous coating composition comprising a non-aqueous vehicle. Applicant therefore believes that new claim 41 is also patentable over Nyssen.

Nyssen in view of Batdorf

The Examiner has rejected claims 4-7, 14, 29, and 40 under 35 U.S.C. § 103(a) as being unpatentable over Nyssen (WO 00/60015) in view of Batdorf (U.S. Patent No. 5,268,203).

In paragraph 9 of the Office Action, the Examiner incorporates the discussion regarding Nyssen from paragraph 8 and further states that, while this reference discloses the use of sulfosuccinic esters as one of the anionic dispersants, it does not explicitly teach the use of an alkylsulfonate group and, in particular, sodium dioctyl sulfosuccinate. For this reason, the

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Examiner relies on Batdorf et al., which the Examiner states teaches that a commercially available and well known anionic surfactant/dispersant is sodium dialkyl sulfosuccinate. The Examiner therefore concludes that, given that Nyssen generically teaches the use of sulfosuccinate dispersants and given that a well known and commercially available sulfosuccinate dispersant is sodium dioctyl sulfosuccinate, it would have been obvious to one of ordinary skill in the art to utilize sodium dioctyl sulfosuccinate and thereby arrive at the presently cited claims.

Applicant respectfully disagrees. Regarding claims 4-7 and 14, as discussed in more detail above, claims 1-20 have been cancelled without prejudice to filing these claims in one or more continuation applications, making the rejection of claims 4-7 and 14 moot.

Regarding claim 29, this claim depends directly from claim 21. As discussed in more detail above, Applicant believes that claim 21 is patentable over Nyssen since there is no disclosure, teaching, or suggestion of a modified carbon product comprising a carbon product having attached at least one organic group. Therefore, Applicant further believes that claim 29 is patentable over Nyssen. Furthermore, Batdorf et al, which has been cited by the Examiner only for its disclosure of sodium dioctyl sulfosuccinate, does not cure this deficiency of Nyssen. Applicant therefore believes that claim 29 is patentable over Nyssen in view of Batdorf et al.

Regarding claim 40, this claim depends directly from claim 30. As discussed in more detail above, Applicant believes that claim 30 is patentable over Nyssen since there is no disclosure, teaching, or suggestion of a modified carbon product comprising a carbon product having attached at least one organic group. In addition, Nyssen is non-analogous art since it relates only to aqueous compositions while claim 30 recites a non-aqueous coating composition comprising a non-aqueous vehicle. Therefore, Applicant believes that claim 40 is also patentable over Nyssen. Furthermore, Batdorf et al, which has been cited by the Examiner only for its disclosure of sodium dioctyl sulfosuccinate, does not cure this deficiency of Nyssen. Applicant therefore believes that claim 40 is patentable over Nyssen in view of Batdorf et al.

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Therefore, Applicant believes that claims 4-7, 14, 29, and 40 are patentable over Nyssen in view of Batdorf et al. and respectfully request that this rejection be withdrawn.

Regarding new claim 41, as discussed in more detail above, Applicant believes there is no disclosure, teaching, or suggestion in Nyssen of the recited pigment composition since there is no disclosure, teaching, or suggestion of a modified carbon product comprising a carbon product having attached at least one organic group. In addition, Nyssen is non-analogous art since it describes only aqueous compositions whereas the present claim recites a non-aqueous coating composition comprising a non-aqueous vehicle. Applicant therefore believes that new claim 41 is also patentable over Nyssen. Furthermore, Batdorf et al, which has been cited by the Examiner only for it's disclosure of sodium dioctyl sulfosuccinate, does not cure this deficiency of Nyssen. Applicant therefore believes that claim 41 is patentable over Nyssen in view of Batdorf et al.

Conclusion

In view of the foregoing remarks, Applicant believes that this application is considered to be in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would further expedite the prosecution of the subject application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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Date: September 23, 2005
Attorney Docket No.: 03090